

# **Draft**

## **Site Management Plan**

### **Bradford Island Superfund Site**

#### **1.0 EXECUTIVE SUMMARY**

##### **INTRODUCTION**

This Site Management Plan (SMP) establishes a schedule and Milestones associated with the performance of work and submittal of documents for the Bradford Island Superfund Site (Site). This SMP is an enforceable component of the associated Federal Facility Agreement (Agreement) for the Site.

##### **FORMAT OF THE SMP**

As provided in Section 4.4 of the Agreement, this SMP sets forth: (a) a description of actions necessary to mitigate any immediate threat to human health or the environment; (b) a listing of all currently identified Operable Units (including Accelerated Operable Units (AOUs)), Interim Remedial Actions, Supplemental Response Actions, and Time-Critical and Non-Time-Critical Removal Actions covered or identified pursuant to the Agreement; (c) Activities and Schedules for response actions; (d) identification of any Primary Actions; (e) all Deadlines; (f) all Near Term Milestones; (g) all Out Year Milestones; (h) all Target dates; (i) a Schedule for initiation of Remedial Designs, Interim Response Actions, Non-Time-Critical Removal Actions, AOUs, and any initiation of other planned response action(s) covered by the Agreement; and (j) all Project End Dates.

##### **SMP DEVELOPMENT**

This SMP has been prepared by the United States Army Corps of Engineers (USACE), United States Environmental Protection Agency (EPA), State of Washington, Department of Ecology (WDOE), and State of Oregon, Department of Environmental Quality (ODEQ). The views and comments of the Yakama Nation were elicited and considered in the development of this SMP, and interested public participants also had an opportunity to comment on this SMP. The Deadlines established in this SMP and each amendment to this SMP will be published by EPA, WDOE, and ODEQ. This SMP and each amendment to this SMP is a Primary Document under the Agreement.

##### **SMP UPDATE**

This SMP will be amended on an annual basis in accordance with Sections XI, XII, and XIII of the Agreement. The amendment process will begin when USACE provides a draft amendment of the SMP to EPA, WDOE, and ODEQ by no later than June 15 of each year.

##### **BRIEF SITE DESCRIPTION**

The Site is in the Columbia River at River Mile 146.1, about three miles west of Cascade Locks, Oregon and 40 miles northeast of Portland, Oregon. Beginning with the Bonneville Dam's operation in 1938, USACE used Bradford Island to support a variety of projects for the Bonneville Dam complex such as chemical storage, equipment storage, and waste disposal. Until 1982, USACE disposed of hazardous waste in a landfill and dumped sandblast grit on the eastern side of Bradford Island. USACE also historically operated a pistol range on the island and disposed of light bulbs and electrical equipment on land (i.e., on the "Bulb Slope and other locations) and in the river. Due to these past activities, there is contamination in uplands portions of Bradford Island and the Columbia River.

USACE is the lead agency conducting response actions at the Site and is currently addressing these actions as two Operable Units (OUs). OU1 addresses soil and groundwater in the eastern portion of Bradford Island. OU2 addresses Columbia River sediments and porewater in the forebay of the Bonneville Dam. The approximately 22-acre OU1 currently includes four areas of potential concern (AOPCs): the Landfill, Sandblast Area, Pistol Range, and Bulb Slope. Contaminants of potential concern (COPCs) at OU1 are present in soil, catch basin solids, and groundwater and include (but are not limited to) polycyclic aromatic hydrocarbons (PAHs), pesticides, total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs), lead, volatile organic compounds, phthalates, and semi-volatile organic compounds. OU2 consists of sediments within the Bradford Island Forebay of the Columbia River. COPCs at OU2 are present in river sediments around Bradford Island and include (but not limited to) the COPCs of OU1, such as PCBs and metals. PCBs have also been detected at high concentrations in fish and shellfish collected from the river near the island.

In 2017, USACE produced a Remedial Investigation (RI) report for both OUs. However, the RI work needed to be supplemented to address data gaps and incorporate other additional information. A Feasibility Study (FS) was prepared by USACE for OU1 but will need to be revised based on further investigation of the nature and extent of contamination and associated assessment of risk. The FS for OU2 will be prepared following completion of the supplemental RI. Further investigations and updates to the Conceptual Site Models (CSMs) for both OUs are underway. The additional investigation has focused on the Sandblast and Bulb Slope AOPCs at OU1. At OU2, the investigation has focused on sediment and biota sampling and the identification of a reference area and establishment of background values.

### STATUS OF SITE AND OPERABLE UNITS

The Site was placed on the National Priority List (NPL) to help ensure that response actions are funded and completed in a timely and proper manner. The anticipated effective date for the Agreement is March 2023.

#### Designation of OUs and Current Status

Operable Unit					
Number/ Title	Basis for Designation	Current Phase of Superfund Process	Lead Agency	Current Phase Completion Date	Next CERCLA Milestone
01	Upland East Bradford Island	Supplemental RI	USACE	Sept. 2023	Complete Supplemental RI/FS
02	In-River Forebay	Supplemental RI	USACE	Sept. 2024	Complete SRI
03	Unidentified Upland Unit	NA	USACE	NA	NA
04	Unidentified In-river Unit	NA	USACE	NA	NA

## 2.0 SITE MANAGEMENT FRAMEWORK

### SITE GOALS

- Evaluate the need for potential early actions to address source materials and mitigate risks.
- Investigate unidentified areas and update the CSM and select and implement the remedy for the uplands eastern portion (OU1) of the Site.
- Investigate unidentified areas and update the CSM and select and implement the remedy for the in-river forebay portion (OU2) of the Site.
- Evaluate the nature and extent of contamination including fate and transport of contamination off-site.
- Maintain mutually supportive, open, and productive working relationships with Federal, State, and Tribal partners.

### GOAL PRIORITIES AND ACTION ITEMS

#### Near-Term Priorities

**Evaluate the need for potential early actions to address source materials and mitigate exposure risks.**

- **March 2023:** Evaluate the need for early action. Such actions could be implemented to stabilize the Landfill AOPC and Bulb Slope AOPC, excavate the Pistol Range AOPC, and/or address source materials at the Sandblast AOPC

#### **OU1 – Upland Bradford Island East**

- **May 2023:** Complete the Supplemental RI (SRI).
  - Review and finalize the Field and Data Report for the Sandblast AOPC.
  - Review and finalize OU1 SRI which incorporates recommendations from the September 2021 Optimization Report and updates the Conceptual Site Model (CSM) to include potential upland to in-river transport pathways as well as data from recent investigations.
- **September 2023:** Complete the Revised FS.
  - Prepare a draft, review, and finalize the Revised FS Report, including the remedial action objectives, technology screening and alternative development, Applicable or Relevant and Appropriate Requirements (ARARs) tables, and the individual and comparative alternative analyses.
  - Identify institutional controls (ICs), if needed.
- **March 2024:** Complete the Proposed Plan (PP)
  - Prepare a draft PP for review
  - Review and finalize the PP to identify the preferred alternative
  - Conduct Proposed Plan outreach, assume 60-day public comment period will be required
- **November 2024:** Complete the OU1 Record of Decision (ROD).
  - Prepare a draft ROD for review

- Ensure public comments have been considered when finalizing the ROD
- USACE, EPA, WDOE, and ODEQ reach agreement on remedy decision or subject the decision to dispute resolution under the Agreement
- **September 2024:** Review and finalize the Remedial Design Work Plan
  - USACE, EPA, WDOE, and ODEQ reach agreement on all components of a work plan including (but not limited to) project goals, schedule, cost, and contracting. The work plan may include additional sampling to support the remedial design, e.g., geotechnical sampling, waste characterization testing, and sampling to refine the cleanup footprint(s).

## **OU2 – In-River Forebay**

- **September 2023:** Complete Supplemental RI Work Plan
  - Review and finalize Supplemental RI Work Plan to fully define the nature and extent of contamination in OU1 from PCBs and other COPCs. The work plan must address the potential for additional electrical equipment in the river as well as NAPL or other residual source materials in the riverbed.
  - Determine the reference location(s) to establish background concentrations for COPCs
- **September 2024:** Complete Supplemental RI
  - USACE conducts data gap investigations and updates the CSM and the risk assessments, as appropriate, after the nature and extent of contamination has been determined.
- **September 2025:** Complete the FS
  - Review and finalize the FS Report, including the remedial action objectives, technology screening and alternative development, and the individual and comparative alternative analyses.
  - Identify ICs, if needed
- **March 2026:** Complete the Proposed Plan (PP)
  - Prepare a draft PP for review
  - Review and finalize the PP to identify the preferred alternative
  - Conduct Proposed Plan outreach, assume 60-day public comment period will be required
- **November 2026:** Complete the OU2 Record of Decision (ROD).
  - Prepare a draft ROD for review
  - Ensure public comments have been considered when finalizing the ROD
  - USACE, EPA, WDOE, and ODEQ reach agreement on remedy decision or subject the decision to dispute resolution under the Agreement

## **Evaluate the nature and extent of contamination to include fate of contamination off-site.**

Identify additional OUs, if necessary, to investigate COPC fate and transport. The current footprint of the Site may need to be expanded. The additional OUs would be created, as needed, to track response actions for other areas of the river downstream of Bradford Island, other islands within and near the Bonneville Dam complex, such as Goose Island, and shoreline areas. Such response actions would be implemented,

in part, to determine whether there are other source or otherwise contaminated areas and define the extent of sediment contamination downstream of the dam.

### **OU3 – Unidentified Upland Unit**

- Upon determining nature and extent of contamination in the uplands and riverbanks additional upland OUs may be necessary. OU3 could include other portions of Bradford Island, other islands in the area, or contaminated portions of the Oregon or Washington shoreline. OU3 could include the former drum storage area east of the equipment building and the former burn pit at the eastern end of the sandblast disposal area, to the extent these or other potentially contaminated areas are not addressed as part of OU1.
- Complete RI Work Plan
  - Review and finalize RI Work Plan
- Complete RI
  - USACE conducts investigations and updates the CSM after nature and extent of contamination has been determined.
- Complete the FS
  - Review and finalize the FS Report, including the remedial action objectives, technology screening and alternative development, and the individual and comparative alternative analyses.
  - Identify ICs, if needed

### **OU4 – Unidentified In-River Unit**

- Upon determining OU2 boundaries and nature and extent of contamination of sediment, there may be a need for an additional in-river OU.
- Complete RI Work Plan
  - Review and finalize RI Work Plan
- **September 2024:** Complete RI
  - USACE conducts investigations and updates the CSM after nature and extent of contamination has been determined.
- **September 2025:** Complete the FS
  - Review and finalize the FS Report, including the remedial action objectives, technology screening and alternative development, and the individual and comparative alternative analyses.
  - Identify ICs, if needed

### **Longer-Term Priorities**

#### **OU1 – Upland Bradford Island East**

- **2025 – 2026:** USACE to construct the remedy and implement ICs, if needed.

- **2027:** Review and finalize the Remedial Action Completion Report.
- **2027 and Beyond:** If needed, USACE to conduct operation and maintenance (O&M) and prepare five-year reviews (FYRs). If necessary, EPA to make an independent protectiveness determination for any FYRs.

#### **OU2 – In-river Forebay**

- **March 2026:** Complete the PP
- **November 2026:** Complete the OU2 ROD.
- **2027:** Review and finalize the Remedial Design Work Plan.
- **2027 – 2030:** USACE to construct the remedy and implement ICs, if needed.
- **2030:** Review and finalize the Remedial Action Completion Report.
- **2030 and Beyond:** If needed, USACE to conduct O&M and prepare FYRs. If necessary, EPA to make an independent protectiveness determination for any FYRs.

**OU3 – Unidentified Upland Unit**

- Complete the OU3 PP
- Complete the OU3 ROD.
- Review and finalize the Remedial Design Work Plan.
- USACE to construct the remedy and implement ICs, if needed.
- Review and finalize the Remedial Action Completion Report.
- If needed, USACE to conduct O&M and prepare FYRs. If necessary, EPA to make an independent protectiveness determination for any FYRs.

**OU4 – Unidentified In-river Unit**

- Complete the OU4 PP
- Complete the OU4 ROD.
- Review and finalize the Remedial Design Work Plan.
- USACE to construct the remedy and implement ICs, if needed.
- Review and finalize the Remedial Action Completion Report.
- If needed, USACE to conduct O&M and prepare FYRs. If necessary, EPA to make an independent protectiveness determination for any FYRs.

Table 1. Bradford Island OUI - Upland Eastern Bradford Island

		Pre-listing Milestones	Near Term Milestones				Out Year Milestones				
Document Title	Primary or Secondary	Date	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	
RI	Primary	June 2017									
FS	Primary	Aug 2021									
Optimization Report	Secondary	Aug 2021									
Sampling and Analysis Report			12/30								
Updated CSM			03/30								
Supplemental RI	Primary		05/01								
Revised FS	Primary		09/30								
Proposed Plan	Primary			03/30							
Record of Decision	Primary				11/30/24						
Remedial Design Work Plan	Primary				09/30						
Remedial Action Completion Report	Primary						03/01				



*Table 2. Bradford Island OU2 – In-River Forebay*

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